

REMARKS

With the cancellation of claim 4, claims 1, 3, and 5-28 are pending. Claims 1, 13, 17, and 20 have been amended. The amendments are supported at least by the disclosure on page 43, line 20 to page 44, line 11 of the specification. In addition, claims 11, 12, 17, and 20 have been amended for editorial purposes without narrowing the scope of the claims. No new matter has been introduced.

The specification has been amended to correct a misspelled word. No new matter has been introduced.

INTERVIEW STATEMENT

Applicants thank Examiner Robinson for the telephone discussion with applicants' representative on October 14, 2010 regarding the lined-through references (*i.e.*, the Decisions of Refusal from the Japan Patent Office) in the Examiner's initialed IDS attached to the Office Action dated July 26, 2010. During the interview, Examiner Robinson stated that she did not consider the English translations of the Decisions of Refusal because she did not think that the Decisions of Refusal were prior art references.

Specification

The specification was objected to because the word "DISCLISURE" in "DISCLISURE OF THE INVENTION" on page 10 was misspelled. The specification has been amended to replace "DISCLISURE" with "DISCLOSURE." Withdrawal of the objection is respectfully requested.

Claim Objections

Claims 11, 12, 17, and 20 were objected to because of the period after the colon in "each measurement part:." recited in claims 11 and 17 and in "five measurement parts:." recited in claims 12 and 20. Claims 11, 12, 17, and 20 have been amended to delete the period after the colon, as suggested by the Examiner. Withdrawal of the objections is respectfully requested.

Claim Rejections under 35 U.S.C. §112

Claims 1, 3-12, 25, and 26 were rejected under 35 U.S.C. §112, second paragraph as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. The Office Action (paragraph bridging pages 2 and 3) states that “claim 1 requires an UV/Visible absorber or color correcting dye, which absorbs in a wavelength range of 450 nm to 650 nm, because the near-infrared film would not be able to have a light transmittance of not lower than 55% in a range of 450 nm to 650 nm in wavelength as recited in instant claim 8 or have a light transmittance of 10% to 60% in a range of 450 nm to 650 nm in a wavelength [*sic*] as recited in instant claim 9.”

Without conceding to the propriety of the rejections and in order to expedite prosecution, claim 1 has been amended to recite “wherein the near-infrared ray absorbing dye comprises an aromatic diimmonium salt type compound.” The specification teaches that the aromatic diimmonium salt type compound is a preferred near-infrared ray absorbing dye which absorbs greatly in the near-infrared ray region and at the same time has high transmittance in the visible light region (page 43, line 15 to page 44, line 11). The specification (page 122, lines 3-20) further discloses that the preferred embodiments of the present invention have a light transmittance of not lower than 55% in a range of 450 nm to 650 nm in wavelength as recited in instant claim 8 or have a light transmittance of 10% to 60% in a range of 450 nm to 650 nm in wavelength as recited in instant claim 9. Applicants submit that the amended claim 1 (and all claims dependent therefrom) does not omit essential elements. Withdrawal of the rejections under 35 U.S.C. §112, second paragraph, is respectfully requested.

Claim Rejections under 35 U.S.C. §103(a)

I. Rejections of claims 1, 3, 4, 9, and 13 under 35 U.S.C. §103(a) over Kuwabara (US 2002/0127395) in view of Fergason et al. (US 4,950,052) and further in view of Long et al. (US 5,079,214)

Applicants respectfully traverse the obviousness rejections of claims 1, 3, 4, 9, and 13 under 35 U.S.C. § 103(a) over Kuwabara in view of Ferguson and further in view of Long.

The Office Action (page 4, lines 8-9) acknowledges that Kuwabara does not disclose a composition containing a surfactant having an HLB of 2 to 12 at a concentration of 0.01% to 2.0% by mass, as recited in present independent claims 1 and 13. The Office Action then attempts to support its obviousness rejections on the ground that it would have been obvious to include a surfactant having an HLB of 2 to 12 at a concentration of 0.01% to 2.0% by mass, as disclosed by Ferguson, in the composition of Kuwabara. Applicants disagree at least because there would have been no motivation to modify the composition of Kuwabara with the surfactant taught by Ferguson.

Ferguson is directed to a liquid crystal film. There is no description that the invention of Ferguson relates to a near infrared ray absorption film of the claimed invention or the near infrared absorption material of Kuwabara. Liquid crystal films and near infrared absorption materials have different functions and required properties. For example, the near infrared ray absorption film of the present invention is a film for absorbing the near infrared ray radiated from a plasma display. Because Ferguson involves a different technical field than the present invention or Kuwabara, Ferguson should not be combined with Kuwabara in an obviousness rejection against the claimed invention.

Not only the invention of Ferguson is unrelated to a near infrared ray absorption material, Ferguson also discloses reasons for using a surfactant that would provide no motivation for a skilled artisan to modify the near infrared absorption material of Kuwabara using the surfactant taught by Ferguson. According to Ferguson, the surfactant is used to generate an emulsion of liquid crystal particles in an aqueous phase as well as to stabilize the liquid crystal emulsion and to control the liquid crystal particle size. For example, Ferguson teaches “as noted in application Serial No. 171,135, the choice of a surfactant which may be necessary to **generate an emulsion of liquid crystal particles in an aqueous phase** is an important consideration, since **the liquid crystal particle size may be controlled** by the amount and chemical characteristics of the surfactant.” See column 5, lines 39-44 (emphases added). Ferguson further discloses that “The amount of surfactant used for emulsifying the liquid crystal material should be the minimal amount needed to **stabilized [sic] the liquid crystal emulsion and to control the liquid crystal**

particle size. *See* column 5, lines 47-50 (emphasis added). On the other hand, Kuwabara does not use a liquid crystal material. Furthermore, Kuwabara teaches away from generating an emulsion in an aqueous phase using a surfactant by disclosing at paragraph [0007] that “the near-infrared absorption dye when added **tends to be decomposed** in gelatin by heat, **humidity** or the like.” This is another reason that a person of ordinary skill in the art would not have been motivated to modify the near-infrared absorption material of Kuwabara with the surfactant taught by Fergason.

In the present invention, a surfactant, which is localized on the surface of the near infrared ray absorption layer, provides the slippage and suppresses the deterioration of the near-infrared ray absorbing dye such as a diimmonium salt type compound. *See* pages 55-59 of the specification. These effects of the surfactant are not taught by Fergason. Instead, Fergason uses a surfactant merely to generate an emulsion of liquid crystal material in an aqueous phase, which function is irrelevant to Kuwabara, which does not use a liquid crystal material and teaches that humidity tends to decompose the near-infrared absorption material.

With respect to the near infrared absorbing dye, the Office Action (page 4, lines 9-13) states that Fergason at column 9, lines 26-38, teaches a film containing a pleochroic dye and/or cyanine dye. The Office Action (page 4, lines 19-21) further states that the pleochroic dye absorbs in the infrared or near infrared energy region (800 nm to 1200 nm). Independent claims 1 and 13 have been amended to recite “wherein the near-infrared ray absorbing dye comprises an aromatic diimmonium salt type compound.” One of the purposes of the present invention is to improve the stability of this aromatic diimmonium salt type compound in order to prevent the color tone from changing with time. The aromatic diimmonium salt type compound used in the claimed invention absorbs greatly in the near-infrared ray region and at the same time exhibits high transmittance in the visible light region. Because of its high transmittance in the visible light region, the aromatic diimmonium salt type compound recited in present claims 1 and 13 is clearly different from a pleochroic dye such as cyanine, which absorbs lights in the visible light region. In addition, neither Fergason nor Long teaches or suggests the use of a dye comprising an aromatic diimmonium salt type compound, as recited in present claims.

For at least these reasons, there would have been no motivation to modify the near infrared absorption material of Kuwabara with the surfactant taught by Fergason. Claims 1, 3, 4,

9, and 13 would not have been obvious over Kuwabara in view of Ferguson and further in view of Long. Withdrawal of the obviousness rejections is respectfully requested.

II. Rejections of other claims under 35 U.S.C. §103 over Kuwabara in view of Ferguson and further in view of Long, as applied to claims 1, 3, 4, 9, and 13, and further in view of other references

Claim 5 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuwabara in view of Ferguson and further in view of Long as applied to claim 1, 3, 4, 9 and 13, and further in view of Sato, et al. (JP 2004-202899); claims 6 and 7 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuwabara in view of Ferguson and further in view of Long as applied to claim 1, 3, 4, 9 and 13, and further in view of Taki et al. (US 6,703,138); claim 8 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuwabara in view of Ferguson and further in view of Long as applied to claim 1, 3, 4, 9 and 13, and further in view of Oya (US 2003/0186040); claims 10 and 24 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuwabara in view of Ferguson and further in view of Long as applied to claim 1, 3, 4, 9 and 13, and further in view of Moriwaki, et al. (US 2003/0021935); claims 11 and 12 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuwabara in view of Ferguson and further in view of Long as applied to claim 1, 3, 4, 9 and 13, and further in view of Kumano, et al. (JP 2003-127310); claim 14 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuwabara in view of Ferguson and further in view of Long as applied to claim 1, 3, 4, 9 and 13, and further in view of Kubo (US 6,770,430); claims 15 and 16 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuwabara in view of Ferguson and further in view of Long as applied to claim 1-4, 9 and 13, and further in view of Ogawa, et al. (US 2004/0071883); claim 17 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuwabara in view of Ferguson and further in view of Long as applied to claim 1, 3, 4, 9 and 13, and further in view of Kumano; claim 18 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuwabara in view of Ferguson and further in view of Long as applied to claim 17 above, and further in view of Iwasaki et al. (US 4,948,635); claim 19 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuwabara in view of Ferguson and further in view of Long as

applied to claim 17, and further in view of Ogawa; claims 20 and 21 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuwabara in view of Fergason and further in view of Long as applied to claims 1 and 13, and further in view of Iwasaki; claim 22 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuwabara in view of Fergason and further in view of Long as applied to claim 20, and further in view of Ogawa; claim 23 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuwabara in view of Fergason and further in view of Long as applied to claim 20, and further in view of Kubo; claims 26-27 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuwabara in view of Fergason and further in view of Long as applied to claims 1, 3, 4, 9, and 13, and further in view of Shouji (US 5,691,838); claim 25 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kuwabara in view of Fergason and further in view of Long as applied to claim 1, and further in view of Hanada et al. (US 6,734,946). Applicants traverse the rejections.

As discussed above, there would have been no motivation to combine Kuwabara with Fergason. The deficiency of Kuwabara in view of Fergason is not cured by any of Sato, Taki, Oya, Moriwaki, Kumano, Kubo, Ogawa, Iwasaki, Shouji, Hanada and combinations thereof at least because none of these references or combinations therefore teaches or suggest modifying the near infrared absorption material of Kuwabara by including a surfactant having an HLB in a range of 2 to 12 at 0.01% to 2% by mass in the composition, as recited in present independent claims 1, 13, 17, and 20. Therefore, the claimed invention would not have been obvious over the cited references. Withdrawal of the obviousness rejections is respectfully requested.

CONCLUSION

The Examiner is encouraged to contact the undersigned regarding any questions concerning this amendment. In the event that the filing of this paper is deemed not timely, applicants petition for an appropriate extension of time. The Commissioner is authorized to debit Deposit Account No. 11-0600 the petition fee and any other fees that may be required in relation to this paper.

Respectfully submitted,
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